

18 have been amended to clarify that the method includes contacting the surface with a polishing pad.

Claims 13-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,645,736 to Allman. Allman does not render obvious the present invention.

The present invention provides for increasing the polishing ratio of silicon dioxide to silicon nitride by including a polyelectrolyte in the polishing slurry. In addition, the present invention provides for increasing the ratio of a metal to silicon dioxide, silicon nitride, and/or silicon oxynitride by including a polyelectrolyte in the polishing slurry. According to the present invention, as discussed in the paragraph bridging pages 4 and 5 of the specification, in order to achieve increased selectivity of polishing, the quantity of polyelectrolytes in the abrasive composition is in excess of the amount which absorbs on the surface of the abrasive particles and therefore is present in some extent in the composition as free or unabsorbed polyelectrolytes. It is believed that the portion of the polyelectrolyte in the supernatant portion of the slurry controls the polishing rate selectivity.

Allman does not render obvious the present invention since, among other things, Allman does not suggest that a polyelectrolyte can be used to control the polishing rates selectivity. More particularly, claim 13 and claims dependent thereon recite employing an anionic polyelectrolyte for increasing the polishing rate ratio of silicon dioxide to silicon nitride and claim 18 recites entering a cationic polyelectrolyte for increasing the polishing ratio of metal to silicon dioxide, silicon nitride and/or silicon oxynitride. On the other hand, Allman relates to a polymer and an abrasive particle on a surface to be polished wherein the polymer is employed to form a temporary film to bind the abrasive. The particular polymer employed according to Allman is not critical (along these lines see column 5, see lines 13 and 14). In fact, the preferred polymer is a polyorganosiloxane. In addition, after the composition is coated onto the substrate, the polymer is then cured by heating such as by a hot plate bake or furnace operation (see column 3, lines 31 and 32 and the Abstract). The coated substrate is then subsequently contacted with a polishing

slurry to thereby dissolve or deplete the binder of the temporary film and to carry out the polishing.

However, Allman does not suggest that when polishing a silicon dioxide surface in contact with a silicon nitride surface that an anionic polyelectrolyte is to be employed. A person skilled in the art would not necessarily select an anionic polyelectrolyte from the numerous polymers suggested by Allman when polishing a silicon dioxide surface in contact with a silicon nitride surface and be lead to believe that the polishing ratio of the silicon dioxide to silicon nitride can be or would be increased. Moreover, with respect to claim 18 and claims dependent thereon, Allman does not suggest cationic polyelectrolytes and nothing whatsoever in Allman suggests that employing a cationic electrolyte for polishing a metal surface would increase the polishing rate of the metal to silicon dioxide, silicon nitride and/or silicon oxynitride in contact therewith.

The mere fact that cited art may be modified in the manner suggested by the Examiner does not make this modification obvious, unless the cited art suggest the desirability of the modification. No such suggestion appears in the cited art in this matter. The Examiner's attention is kindly directed to *In re Lee* Case no. 00-1158 (Fed. Cir. Jan. 2002), *In re Dembiczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

In *Dembiczak et al.*, supra, the Court at 1617 stated: "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., C.R. Bard, Inc., v. M3 Sys., Inc., 157 F.3d. 1340, 1352, 48 USPQ2d. 1225, 1232 (Fed. Cir. 1998) (describing 'teaching or suggestion motivation [to combine]' as in 'essential evidentiary component of an obviousness holding'), In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d. 1453, 1459 (Fed. Cir. 1998) ('the Board must identify specifically...the reasons one of ordinary skill in the art would have been motivated to select the references and combine them');...".

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

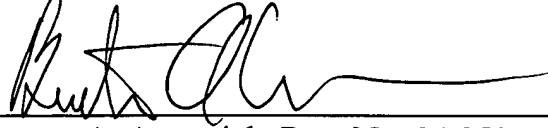
No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Director is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Burton A. Amernick', written over a horizontal line.

Burton A. Amernick, Reg. No. 24,852

Customer Number 30678

Connolly Bove Lodge & Hutz LLP

1990 M Street, N.W., Suite 800

Washington, D.C. 20036-3425

Telephone: 202-331-7111

Date: 4-3-02

APPENDIX

Please amend claims 13 and 18 as follows:

13. (Amended) A method for polishing a silicon dioxide surface in contact with a silicon nitride which comprises providing on the silicon dioxide surface a slurry comprising abrasive particles and an anionic polyelectrolyte in an amount sufficient to increase the polishing rate ratio of the silicon dioxide to the silicon nitride and contact said surface with a polishing pad.

18. (Amended) A method for polishing a metal surface which is in contact with at least one member elected from the group consisting of silicon dioxide, silicon nitride and silicon oxynitride which method comprises providing on the metal surface a slurry comprising abrasive particles and a cationic polyelectrolyte in an amount sufficient to increase the polishing rate ratio of the metal to said member and contacting said surface with a polishing pad.